

Claims

What is claimed is:

1. In a cellular network system, an add-on base station comprising:
  - A. a first channel for connecting to a customer's phone;
  - B. a second channel for connecting to a network;
  - C. circuits for connecting the customer's phone to a destination on the network; and
  - D. billing means for collecting a payment for services related to connecting the customer's phone to the network.
2. The base station according to claim 1, wherein the customer's phone is connected through a wireless link.
3. The base station according to claim 2, wherein the first channel further includes means for generating and receiving control signals as required to communicate with the wireless phone.
4. The base station according to claim 1, wherein the second channel connects to an IP network such as an Internet or Internet over cables, or to a wired telephone network.
5. The base station according to claim 1, wherein the billing means include means for receiving payments in the form of digital documents.
6. The base station according to claim 5, wherein the digital documents include tokens, digital cash or a credit or right to use the network.
7. The base station according to claim 1, further including storage means for storing digital certificates.
8. The base station according to claim 7, wherein the certificate binds a cryptographic public key with an identifier.

9. The base station according to claim 7, wherein the certificate includes an operating license for the base station.

10. The base station according to claim 1, further including unique identification means for each base station.

11. A cellular network system comprising:

A. a center for forwarding information as required to establish an IP connection between two parties;

B. a plurality of cellular phones capable of connecting over a cellular wireless network;

C. a plurality of base stations, connected to an IP network and including means for communicating with the cellular phones over a wireless channel and means for routing messages over the IP network.

12. The cellular network system according to claim 11, wherein the center includes means for keeping track in real time of the cellular phones that can be reached through each one of the base stations.

13. The cellular network system according to claim 11, wherein at least one of the base stations further includes billing means for collecting a payment for services related to connecting the cellular phone to the IP network.

14. The cellular network system according to claim 11, wherein at least one of the base stations further includes means for its operation from a mobile base.

15. The cellular network system according to claim 11, wherein at least one of the base stations further includes communication means for data, voice and/or multimedia.

16. The cellular network system according to claim 13, wherein the billing means include means for collecting payment in the form of tokens, digital cash, a credit and/or rights to use the network.

17. The cellular network system according to claim 13, wherein the billing means include smart card means for collecting the payment.

18. A method to establish a link between a caller and an addressee, while preserving the anonymity of the caller and the addressee, comprising the steps of:

A. The caller sends a request to a cellular center requesting to connect to a specific addressee, using a message encrypted with the public key of the center. The message also includes the identification of the caller;

B. the center decrypts the message, identifies the caller and the addressee;

C. the center composes a message for the addressee and encrypts it with the public key of the addressee. The message is then sent to base stations that may be in contact with that addressee;

D. the base station transmits the message "as is" or in a modified form. In any case, the encrypted section is preserved - the base station and other phones in the area will not know who is the caller and who is the addressee;

E. only the designated addressee will be capable to decrypt the message, and will be thus notified of the attempted connection. Other phones, that do not possess the required private key, will not be able to decrypt the message, and will thus know that the message was not addressed to them.

F. if the addressee decides to answer the call, he sends a response message, encrypted with a known public key - for example that of the center, or asks the base station to reply to the call. Otherwise - go to step (H).

G. the center sends a message to the caller, with information to allow him to implement the connection with the addressee, or the addressee contacts the caller directly;

H. end.

19. The method according to claim 18, wherein in step (B) the center checks the authorization of the caller to sent the request; only if the caller is authorized, then the center will proceed to execute step (B); otherwise go to step (H).

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